

PCT/ENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference N.77422 MN	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 99/ 05088	International filing date (day/month/year) 16/07/1999	(Earliest) Priority Date (day/month/year) 17/07/1998
Applicant VIRTUAL REAL-ESTATE et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
 - contained in the international application in written form.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority in written form.
 - furnished subsequently to this Authority in computer readable form.
 - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. Certain claims were found unsearchable (See Box I).

3. Unity of invention is lacking (see Box II).

4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

PROGRAM LOGIC FOR DISPLAYING TEXT PASSAGES ON A SCREEN

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

1

None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/05088

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	HEMMJE M ET AL: "LYBER WORLD - A VISUALIZATION USER INTERFACE SUPPORTING FULLTEXT RETRIEVAL" SIGIR '94, DUBLIN, JULY 3 - 6, 1994, no. CONF. 17, 3 July 1994 (1994-07-03), pages 249-259, XP000475325 CROFT W B; VAN RIJSBERGEN C J (EDITORS) page 253, line 6 -page 255, paragraph 4 page 251, line 57 -page 252, line 9 ----- -/-	1-5
A		6-8

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

22 October 1999

Date of mailing of the international search report

02/11/1999

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Fournier, C

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 99/05088

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GINZBERG A: "A UNIFIED APPROACH TO AUTOMATIC INDEXING AND INFORMATION RETRIEVAL" IEEE EXPERT, vol. 8, no. 5, 1 October 1993 (1993-10-01), pages 46-56, XP000413472 ISSN: 0885-9000	6
A	page 47, right-hand column, line 3 -page 48, left-hand column, line 14	7,8
A	LAMPING J ET AL: "A FOCUS+CONTEXT TECHNIQUE BASED ON HYPERBOLIC GEOMETRY FOR VISUALIZING LARGE HIERARCHIES" HUMAN FACTORS IN COMPUTING SYSTEMS, CHI '95 CONFERENCE PROCEEDINGS. DENVER, MAY 7 - 11, 1995, 7 May 1995 (1995-05-07), pages 401-408, XP000538470 KATZ I R ET AL (ED) ISBN: 0-201-84705-1 abstract; figures	6-8
A	FOWLER R H ET AL: "INTEGRATING QUERY, THESAURUS, AND DOCUMENTS THROUGH A COMMON VISUAL REPRESENTATION" PROCEEDINGS OF THE ANNUAL INTERNATIONAL ACM/SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, CHICAGO, OCT. 13 - 16, 1991, no. CONF. 14, 13 October 1991 (1991-10-13), pages 142-151, XP000239166 BOOKSTEIN A; CHIARAMELLA Y; SALTON G; RAGHAVAN V the whole document	1-8

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Nicholls, Michael John
J.A. KEMP & CO.
14 South Square
Gray's Inn
London WC1R 5LX
GRANDE BRETAGNE

J. A. KEMP & Co

- 3 APR 2000

Action by

PCT

WRITTEN OPINION

(PCT Rule 66)

<p>Applicant's or agent's file reference N.77422 MN</p>			<p>Date of mailing (day/month/year) 30.03.2000</p>
<p>International application No. PCT/EP99/05088</p>	<p>International filing date (day/month/year) 16/07/1999</p>	<p>REPLY DUE within 3 month(s) from the above date of mailing</p>	
<p>Priority date (day/month/year) 17/07/1998</p>			
<p>International Patent Classification (IPC) or both national classification and IPC G06F17/30</p>			
<p>Applicant VIRTUAL REAL-ESTATE et al.</p>			

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain document cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis. For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 17/11/2000.

Name and mailing address of the international preliminary examining authority:
European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer / Examiner

Corcoran, P

Formalities officer (incl. extension of time limits)
Taylor, K
Telephone No. +49 89 2399 2687



I. Basis of the opinion

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

Description, pages:

1-8 as originally filed

Claims, No.:

1-8 as originally filed

Drawings, sheets:

1/4-4/4 as originally filed

2. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

3. This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

see separate sheet

IV. Lack of unity of invention

1. In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees, the applicant has:

- restricted the claims.
- paid additional fees.
- paid additional fees under protest.
- neither restricted nor paid additional fees.

2. This Authority found that the requirement of unity of invention is not complied with for the following reasons

and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

see separate sheet

3. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

all parts.
 the parts relating to claims Nos. .

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	6,7
Inventive step (IS)	Claims	8
Industrial applicability (IA)	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

IV. Lack of Unity of Invention

(1) Unity of Invention - Rule 13 PCT

An objection concerning lack of unity of invention is raised with respect to the present claim set because it is considered that there are two groups of claims relating to separate inventions, *viz.*

1. Programme logic for the display of text passages; Claims 1-5;
2. Programme logic for the retrieval of text passages; Claims 6-8;

The subject matter of the above groups of claims is effectively related by the corresponding functions of "retrieving" and "displaying" text passages. However, said corresponding functions of "retrieving" and "displaying" cannot *per se* be considered novel and inventive features in respect of an information retrieval system. Hence, said features cannot be regarded as "special technical features" in the sense of Rule 13.2 PCT.

In view of the foregoing, the requisite unity of invention (Rule 13.1 PCT) is not considered to exist inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT is not found to exist between the subject-matter of the above groups of claims.

V. Reasoned Statement under Rule 66.2(a)(ii)

(1) Cited Prior Art

Reference is made to the following documents:

D1: FOWLER R H ET AL: 'INTEGRATING QUERY, THESAURUS, AND DOCUMENTS THROUGH A COMMON VISUAL REPRESENTATION' PROCEEDINGS OF THE ANNUAL INTERNATIONAL ACM/SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, CHICAGO, OCT. 13 - 16, 1991, no. CONF. 14, 13 October 1991 (1991-10-13), pages 142-151, XP000239166 BOOKSTEIN A;CHIARAMELLA Y; SALTON G; RAGHAVAN V;

D2: HEMMJE M ET AL: 'LYBER WORLD - A VISUALIZATION USER INTERFACE SUPPORTING FULLTEXT RETRIEVAL' SIGIR '94, DUBLIN, JULY 3 - 6, 1994, no. CONF. 17, 3 July 1994 (1994-07-03), pages 249-259, XP000475325 CROFT W B;VAN RIJSBERGEN C J (EDITORS);

D3: LAMPING J ET AL: 'A FOCUS+CONTEXT TECHNIQUE BASED ON HYPERBOLIC GEOMETRY FOR VISUALIZING LARGE HIERARCHIES' HUMAN FACTORS IN COMPUTING SYSTEMS, CHI '95 CONFERENCE PROCEEDINGS. DENVER, MAY 7 - 11, 1995,7 May 1995 (1995-05-07), pages 401-408, XP000538470 KATZ I R ET AL (ED) ISBN: 0-201-84705-1;

D4: G.G. ROBERTSON ET AL.: "Cone Trees: Animated 3D Visualizations of Hierarchical Information", HUMAN FACTORS IN COMPUTING SYSTEMS CONFERENCE PROCEEDINGS, READING, USA, 27. April 1991, pages 189 to 194, XP 002002888;

The document D4 was not cited in the International Search Report. A copy of the document is annexed to the communication. The above numbering will be adhered to in the rest of the procedure.

(2) Claims 6-8

2.1) Claim 6

The subject matter of the independent claim 6, insofar as it can be understood, is considered to lack novelty in the sense of Article 33 (2) PCT. The applicant is referred to VIII. below for observations concerning the clarity of the claim.

Claim 6 is directed towards "programme logic for the purpose of retrieving of text

passages relevant to the solution of a programme". According to said claim "a number of criteria relevant to the solution of the task and subcriteria attributed to them of several consecutive categories are shown on the screen" and "based on a combination of search criteria a text search in at least one data memory is carried out, the result of which can also be displayed on the screen".

Said claim, insofar as it has been understood, is directed towards a structured visual representation of a query to be used as a basis for information retrieval substantially equivalent to the "query graph" or "query network" disclosed in D1: 2. *A System Integrating Visual Representations*, p.143 right-hand col. second paragraph; 6. *Using the System Components*, p.148-50, in particular the first three paragraphs; Figs. 1 and 2 , in particular the "REQUEST MAP" window.

In view of the foregoing, all the features of the claim can be considered as disclosed in D1 and hence the subject matter of claim 6 lacks novelty in the sense of Article 33 (2) PCT.

2.2) Claims 7-8

Dependent claims 7-8 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and inventive step.

As to claim 6, the "query graph" of D1 discloses subcriteria of a second category arranged around subcriteria of a first category in a substantially radial order (cf. Figs. 1-3). In any case the visual representation of hierarchical information sets in a radial order is known *per se* and its application in the given context would not require the use of inventive skill, cf. D3: Abstract and Figs. 1,3,4.

As to claim 7, the extension of the visual representation to three-dimensions is not considered to involve an inventive step because the three-dimensional visual representation of hierarchical information sets is already known *per se* and its application in the given context would not require the use of inventive skill, (cf. D4 for example).

(3) Claims 1-5

3.1) Claim 1

In the field of information retrieval (IR) systems it is known to use circular display regions, for the visualization of informational relationships. D2 is considered to be the

closest prior art with respect to the subject matter of claim 1. Said document discloses the design of IR tools for the visualization of information "content spaces" (D2: *2. What has to be Visualized ? - Modelling a Spatial Information Navigation*, paragraphs 1 and 2, p.250) and more particularly discloses the display of text passages ("documents") arranged on a screen in relation to a combination of search criteria ("terms") with the radial distances of the individual text passages ("documents") from the search criteria showing their relevance to the combination of the search criteria ("terms"), cf. Figs.6-8 and 13-16.

The teaching of D2 appears to be restricted to an arrangement in which the combination of search criteria ("term nodes") are placed around the circumference of the display area ("relevance sphere") with the text passages ("documents") being arranged inside the display area, (cf. p.253 I.20-31) whereas in the display arrangement described on p.3 I.3-9, p.5 I.10-15 and illustrated in Figs. 1 and 3 of the present application, the combination of search criteria are displayed in the central or core region of the circular display area and that the text passages are displayed in the outer sectors of the circular display area, thus being concentrically arranged around the combination of search criteria. Having regard to this difference, the display arrangement of the present application does not appear to be either disclosed suggested by the available prior art. Subject to appropriate clarification (cf. VIII.1 below), the subject matter of claim 1 could therefore be considered to meet the requirements of Article 33 PCT in respect of novelty and inventive step.

3.2) Dependent Claims 2-5

To the extent that claim 1 may be considered to meet the requirements of the PCT with respect to novelty and inventive step as indicated in 3.1 above, claims 2-5 dependent thereon may also be considered to meet these requirements. The applicant is referred to VIII. below for observations concerning the clarity of said claims.

VII. Certain Defects in the International Application

- (1) Contrary to the requirements of Rule 5.1(a)(ii) PCT, the documents D1-D4 are not identified in the description with appropriate reference to the relevant background art disclosed therein.
- (2) The features of the claims have not been provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- (3) The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. In particular, fair copies of the amendments should be filed preferably in triplicate. Moreover, the applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT the examiner is not permitted to carry out any amendments, however minor, under the PCT procedure.
- (4) In accordance with Article 34(2)(b) PCT, any information the applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as filed, should be confined to the letter of reply rather than be incorporated into the application.
- (5) To facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT). If the applicant regards it as appropriate, these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

VIII. Certain Observations on the International Application

(1) Claims 1 and 6

Claims 1 and 6 are directed towards "programme logic for the display of text passages" and "programme logic for the purpose of retrieving of text passages" respectively. The applicant's attention is drawn to the fact that claims directed towards computer programs as such are excluded from international preliminary examination in accordance with Rule 67 (vi) PCT and preliminary examination is only required to the extent that the subject matter as claimed makes a technical contribution to the known art, (cf. Preliminary Examination Guidelines IV 2.1 and 2.4 (f)). Moreover, it is noted that an invention which is the subject of international preliminary examination must be of "technical character" to the extent that it must relate to a technical field (Rule 5.1(a)(i)), must be concerned with a technical problem (Rule 5.1(a)(iii)) and must have technical features in terms of which the subject matter for which protection is sought can be defined in the claim (Rule 6.3(a)) (cf. Preliminary Examination Guidelines IV 1.2 (a)(ii)).

The wording of claims 1 and 6 suggests that they are essentially directed towards computer programs. Preliminary examination of the claims is based on the interpretation of said claims as relating to methods for the retrieval and visualization of data in the context of computerized information retrieval systems. Subject to this interpretation the subject matter of said claims can be considered to have a technical character. However, as noted below, the examiner is of the opinion that the technical features in terms of which the subject matter for which protection is sought are not clearly defined contrary to the requirements of Article 6 PCT.

1.1) Claim 1

The examiner submits that claim 1 does not define with sufficient clarity the essential technical features of the display arrangement described on p.3 I.3-9, p.5 I.10-15 and illustrated in Figs. 1 and 3 of the present application according to which a visual representation of a query comprising a plurality of search criteria is displayed in the central or core region of a circular display area and visual representations of text passages retrieved in response to the query are displayed in the outer sectors of the circular display area, said visual representations of said text passages thus being concentrically arranged around the core region of the display area.

The aforementioned essential features are to some extent present in the claim but are not defined with sufficient clarity. In particular, Figs. 1 and 3 suggest that it is not

the "search criteria" and "text passages" themselves which are displayed but rather visual representations thereof. Furthermore, the term "radial distance" as used without further qualification is unclear. The intention appears to be to denote the radial distance from the centre of the circular display area.

1.2) Claim 6

The intended meaning of the term "consecutive categories" as used in claim 6 is unclear: *"criteria relevant to the solution of the task and subcriteria attributed to them of several consecutive categories"*.

With reference to the requirements of Rule 13 PCT concerning unity of invention, it is further noted that a plurality of independent claims in the same category directed towards diverse embodiments of an invention can normally only be allowed when there is a technical relationship among the claims involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT). In the present case the wording of claim 6 does not contain any special technical features which could provide the required technical relationship between its subject matter and that of claim 1 (cf. IV. above).

(2) Claim 5

The terms and expressions "radial beam", "radial level" and "sectors of the radial beams or levels" as used in claim 5 lack clarity.

The terms "radial beam" and a "radial level" appear to denote radial lines emanating from the visual representations of the individual search criteria as depicted in Figs. 1 and 3 but the intended distinction between a "radial beam" and a "radial level" is not clear.

Likewise, the expression "sectors of the radial beams or levels" is unclear. The intention appears to be to denote sectors of the circular display area delimited by the aforementioned "radial beams or levels".

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Nicholls, Michael John
J.A. KEMP & CO.
14 South Square
Gray's Inn
London WC1R 5LX
GRANDE BRETAGNE

J. A. KEMP & CO.

- 7 AUG 2000

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing
(day/month/year) 03.08.2000

Applicant's or agent's file reference
N.77422 MN

IMPORTANT NOTIFICATION

International application No.
PCT/EP99/05088

International filing date (day/month/year)
16/07/1999

Priority date (day/month/year)
17/07/1998

Applicant
VIRTUAL REAL-ESTATE et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d

Authorized officer

Schall, H



PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference N.77422 MN	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP99/05088	International filing date (day/month/year) 16/07/1999	Priority date (day/month/year) 17/07/1998
<p>International Patent Classification (IPC) or national classification and IPC G06F17/30</p> <p>Applicant VIRTUAL REAL-ESTATE et al.</p>		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 4 sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 		

Date of submission of the demand 08/02/2000	Date of completion of this report 03.08.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Corcoran, P Telephone No. +49 89 2399 2146



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP99/05088

I. Basis of the report

1. This report has been drawn on the basis of (substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

Description, pages:

2-8	as originally filed		
1.1a	as received on	23/06/2000 with letter of	21/06/2000

Claims, No.:

1-9	as received on	23/06/2000 with letter of	21/06/2000
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Drawings, sheets:

1/4-4/4	as originally filed
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2. The amendments have resulted in the cancellation of:

the description, pages:
 the claims, Nos.:
 the drawings, sheets:

3. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP99/05088

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1-9
No: Claims

Inventive step (IS) Yes: Claims 1-9
No: Claims

Industrial applicability (IA) Yes: Claims 1-9
No: Claims

2. Citations and explanations

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP99/05088

V. Reasoned Statement under Article 35 (2)

(1) Cited Prior Art

Reference is made to the following documents:

D1: FOWLER R H ET AL: 'INTEGRATING QUERY, THESAURUS, AND DOCUMENTS THROUGH A COMMON VISUAL REPRESENTATION' PROCEEDINGS OF THE ANNUAL INTERNATIONAL ACM/SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, CHICAGO, OCT. 13 - 16, 1991, no. CONF. 14, 13 October 1991 (1991-10-13), pages 142-151, XP000239166 BOOKSTEIN A;CHIARAMELLA Y; SALTON G; RAGHAVAN V;

D2: HEMMJE M ET AL: 'LYBER WORLD - A VISUALIZATION USER INTERFACE SUPPORTING FULLTEXT RETRIEVAL' SIGIR '94, DUBLIN, JULY 3 - 6, 1994, no. CONF. 17, 3 July 1994 (1994-07-03), pages 249-259, XP000475325 CROFT W B;VAN RIJSBERGEN C J (EDITORS);

D3: LAMPING J ET AL: 'A FOCUS+CONTEXT TECHNIQUE BASED ON HYPERBOLIC GEOMETRY FOR VISUALIZING LARGE HIERARCHIES' HUMAN FACTORS IN COMPUTING SYSTEMS, CHI '95 CONFERENCE PROCEEDINGS. DENVER, MAY 7 - 11, 1995, 7 May 1995 (1995-05-07), pages 401-408, XP000538470 KATZ I R ET AL (ED) ISBN: 0-201-84705-1;

D4: G.G. ROBERTSON ET AL.: "Cone Trees: Animated 3D Visualizations of Hierarchical Information", HUMAN FACTORS IN COMPUTING SYSTEMS CONFERENCE PROCEEDINGS, READING, USA, 27. April 1991, pages 189 to 194, XP 002002888;

The document D4 was not cited in the International Search Report.

(2) Claims 1-9

2.1) Claim 1

In the field of information retrieval (IR) systems it is generally known to use circular display regions for the visualization of informational relationships. D2 is considered to be the closest prior art with respect to the subject matter of claim 1. Said document discloses the design of IR tools for the visualization of information "content spaces" (D2: 2. *What has to be Visualized ? - Modelling a Spatial Information Navigation*, paragraphs 1 and 2, p.250) and more particularly discloses the display of text passages ("documents") arranged on a screen in relation to a combination of search criteria ("terms") with the radial distances of the individual text passages

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP99/05088

("documents") from the search criteria showing their relevance to the combination of the search criteria ("terms"), cf. Figs.6-8 and 13-16.

The teaching of D2 appears to be restricted to an arrangement in which the combination of search criteria ("term nodes") are placed around the circumference of the display area ("relevance sphere") with the text passages ("documents") being arranged inside the display area, (cf. p.253 I.20-31).

In the display arrangement recited in claim 1, visual representations of a combination of search criteria are displayed in the central or core region of the circular display area and visual representations of the text passages identified as relevant to the search criteria are displayed in the outer sectors of the circular display area, thus being concentrically arranged around the visual representations of the combination of search criteria. The display arrangement recited in said claim does not appear to be disclosed or rendered obvious by the available prior art.

In view of the apparent lack of prejudicial disclosure, the subject matter of claim 1 is considered to meet the requirements of Article 33 PCT in respect of novelty, inventive step and industrial applicability.

3.2) Dependent Claims 2-9

Inasmuch as claim 1 is considered to meet the requirements of Article 33 PCT as indicated in 2.1 above, claims 2-9 dependent thereon may also be considered to meet these requirements.

VIII. Certain Observations on the International Application

(1) Claim 1

The term "usual representation(s)" used in claim 1 (p.9 lines 11-12) appears to be a typographical error. The applicant's intention is understood to be to refer to the previously recited "visual representation(s)".

100-006-00

-1-

Program Logic For Displaying Text Passages On A Screen

The present invention concerns a programme logic for displaying text passages which are relevant for the solution of a task on a screen by using at least one data memory for text passages which are electronically stored; upon entering a combination of search criteria the text 5 passages relevant to such combination will be displayed on the screen.

Carrying out of searches for text passages by using at least one data memory is well-known. For that purpose search criteria, in particular search words, are entered into the data memory, whereupon the text passages relevant to such criteria will be displayed on a screen. However, the known processes for the carrying out of searches for text passages have the 10 disadvantage that it cannot be seen on the screen what relevance the text passages displayed have with respect to the search criteria. This applies, in particular, if searches are made with respect to a combination of search criteria.

The article by Fowler et al entitled "Integrating Query, Thesaurus and 15 Document Through a Common Visual Representation"; proceedings of the Annual International ACM/SIGIR Conference on Research & Development in Information Retrieval, Chicago, October 13-16 1991, No. Conf. 14-30 October 1991, pages 142-151 discloses the use of visually displayed graphic structures and a direct manipulation interface for use in document retrieval. A visually displayed network 20 structure is used and a natural language query is converted into a visually displayed network structure, the manipulation of the network structure then allowing manipulation of the query.

The article by Hemmje et al entitled "Lyber World - A Visualisation User Interface Supporting Full Text Retrieval", SIGIR 1994, Dublin, July 3-6 1994, No. 25 Conf. 17, 3 July 1994, pages 249 to 259 discloses a graphical user interface for use in an information retrieval system in which text passages are displayed on a screen in relation to set criteria with radial distances between the two indicating the degree of relevance. The search criteria are placed around the circumference of the display area, with the text passages being arranged inside the display area.

100-006-007

The article by Lamping et al entitled "A Focus and Context Technique based on hyperbolic geometry for visualising large hierarchies"; Human Factors in computing systems, CHL 1995 conference proceedings, Denver, May 7-11 1995, 5 pages 401-408 discloses a method of displaying a hierarchy in a circular display region with its root at the centre, and branches extending out from the centre, those branches then branching further toward the circumference of the circle.

10 The article by G G Robertson et al entitled "Cone Trees: Animated 3-D Visualisations of Hierarchical Information", Human Factors in Computing Systems conference proceedings, Reading, USA, 27 April 1991, pages 189-194 discloses a 10 similar visual display known as a cone tree, but in three dimensions.

15 The present invention is based on the task of creating an improved method through which in case of a search by means of a combination of search criteria the text passages found thereby are displayed on the screen in such a way that their relevance in relation to the individual search criteria is shown. According to this invention, this objective is achieved by concentrically arranging the text passages on the screen around the combination of the search criteria, with the radial distances of the individual text passages showing their relevance in respect of the search criteria.

20 Preferably the individual search criteria are attributed to sectors on the screen, with the individual text passages being shown on the screen in the sectors of that search criterion for which they are most relevant. A radial beam or a radial level, respectively, can lead from each of the search criteria shown in the centre, with the text passages relevant to the individual search criterion being shown in the sectors of the radial beams or levels, respectively, or those text 25 passages which are relevant to two of the search criteria being shown in those sectors which are defined by the beams or levels attributed to such search criteria. In this connection, the display can be two-dimensional or three-dimensional.

11 23.06.00

-9-

CLAIMS

5 1. A method for the display of text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages; wherein upon entering a combination of search criteria visual representations of the combination of search criteria (B, S, T) and of the text passages (bit, *fff*), relevant to such combination are displayed on the screen, the

10 visual representation of the combination of search criteria (B, S, T) being displayed in the centre of the screen and said usual representations of the text passages being arranged on the screen concentrically around the usual representation of the combination of the search criteria (B, S, T), with the radial distances of the visual representation of the individual text passages (bit, *fff*) from the visual representation 15 of the combination of search criteria (B, T, S) showing their relevance to the combination of the search criteria.

2. A method according to claim 1, wherein sectors of the screen are attributed to the individual search criteria (B, S, T), with the visual representations of 20 individual text passages (bit, *fff*) being displayed on the screen in the sectors of that search criterion (B, S, T) for which they are most relevant.

3. A method according to claim 1 or 2, wherein the visual representations of the passages (bit, *fff*) are displayed on the screen in two or three 25 dimensions.

4. A method according to claim 2 or 3 wherein a radial line is displayed extending from each of the visual representations of the search criterion (B, S, T) displayed in the centre of the screen, with the visual representations of the text 30 passages (bit, *fff*) relevant to an individual one of the search criteria (B, S, T) being shown adjacent the corresponding radial line.

5. A method according to claim 4, wherein the visual representations of those text passages (bit, *fff*) which are relevant to two of the search criteria (B, S, T) are shown in sectors of the screen delimited by the radial lines corresponding to the two search criteria (B, S, T).

5

6. A method according to any one of claims 1 to 5 wherein visual representations of a plurality of criteria relevant to the solution of the task and subcriteria attributed to them are shown on the screen.

10 7. A method according to claim 6, wherein also visual representations of subcriteria of a lower level of hierarchy attributed to each of the subcriteria are arranged radially around the visual representations of the subcriteria.

8. A method according to claim 7, characterised by the fact the visual representations of the subcriteria of the lower level of the hierarchy are arranged around the visual representation of the respective superior criterion on the screen in a three-dimensional radial order.

15

9. A method according to any one of the preceding claims wherein the distance between each of the representations of text passages and the centre of the screen increases as the number of search criteria to which that text passage is relevant decreases.

20

PATENT COOPERATION TREATY

PCT

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INFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

From the INTERNATIONAL BUREAU

To:

NICHOLLS, Michael John
J.A. Kemp & Co.
14 South Square
Gray's Inn
London WC1R 5LX
ROYAUME-UNI

RECD 25 MAR 2000
ACTION

Date of mailing (day/month/year)
22 March 2000 (22.03.00)

Applicant's or agent's file reference
N.77422 MN

IMPORTANT INFORMATION

International application No. PCT/EP99/05088	International filing date (day/month/year) 16 July 1999 (16.07.99)	Priority date (day/month/year) 17 July 1998 (17.07.98)
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Applicant
VIRTUAL REAL-ESTATE et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

AP :GH,GM,KE,LS,MW,SD,SL,SZ,UG,ZW
EP :AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE
National :AU,BG,BR,CA,CN,CZ,DE,IL,JP,KP,KR,MN,NO,NZ,PL,RO,RU,SE,SK,US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

EA :AM,AZ,BY,KG,KZ,MD,RU,TJ,TM
OA :BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG
National :AE,AL,AM,AT,AZ,BA,BB,BY,CH,CU,DK,EE,ES,FI,GB,GD,GE,GH,GM,HR,HU,
ID,IN,IS,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MW,MX,PT,SD,SG,SI,SL,TJ,
TM,TR,TT,UA,UG,UZ,VN,YU,ZA,ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
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Authorized officer:
Beate Giffo-Schmitt
Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

REC'D 04 AUG 2000

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PCT

16

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference N.77422 MN	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP99/05088	International filing date (day/month/year) 16/07/1999	Priority date (day/month/year) 17/07/1998	
International Patent Classification (IPC) or national classification and IPC G06F17/30			
Applicant VIRTUAL REAL-ESTATE et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 4 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			

Date of submission of the demand 08/02/2000	Date of completion of this report 03.08.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Corcoran, P Telephone No. +49 89 2399 2146



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP99/05088

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

2-8 as originally filed

1,1a as received on 23/06/2000 with letter of 21/06/2000

Claims, No.:

1-9 as received on 23/06/2000 with letter of 21/06/2000

Drawings, sheets:

1/4-4/4 as originally filed

2. The amendments have resulted in the cancellation of:

the description, pages:
 the claims, Nos.:
 the drawings, sheets:

3. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP99/05088

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1-9
No: Claims

Inventive step (IS) Yes: Claims 1-9
No: Claims

Industrial applicability (IA) Yes: Claims 1-9
No: Claims

2. Citations and explanations

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

V. Reasoned Statement under Article 35 (2)

(1) Cited Prior Art

Reference is made to the following documents:

D1: FOWLER R H ET AL: 'INTEGRATING QUERY, THESAURUS, AND DOCUMENTS THROUGH A COMMON VISUAL REPRESENTATION' PROCEEDINGS OF THE ANNUAL INTERNATIONAL ACM/SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, CHICAGO, OCT. 13 - 16, 1991, no. CONF. 14, 13 October 1991 (1991-10-13), pages 142-151, XP000239166 BOOKSTEIN A;CHIARAMELLA Y; SALTON G; RAGHAVAN V;

D2: HEMMJE M ET AL: 'LYBER WORLD - A VISUALIZATION USER INTERFACE SUPPORTING FULLTEXT RETRIEVAL' SIGIR '94, DUBLIN, JULY 3 - 6, 1994, no. CONF. 17, 3 July 1994 (1994-07-03), pages 249-259, XP000475325 CROFT W B;VAN RIJSBERGEN C J (EDITORS);

D3: LAMPING J ET AL: 'A FOCUS+CONTEXT TECHNIQUE BASED ON HYPERBOLIC GEOMETRY FOR VISUALIZING LARGE HIERARCHIES' HUMAN FACTORS IN COMPUTING SYSTEMS, CHI '95 CONFERENCE PROCEEDINGS. DENVER, MAY 7 - 11, 1995,7 May 1995 (1995-05-07), pages 401-408, XP000538470 KATZ I R ET AL (ED) ISBN: 0-201-84705-1;

D4: G.G. ROBERTSON ET AL.: "Cone Trees: Animated 3D Visualizations of Hierarchical Information", HUMAN FACTORS IN COMPUTING SYSTEMS CONFERENCE PROCEEDINGS, READING, USA, 27. April 1991, pages 189 to 194, XP 002002888;

The document D4 was not cited in the International Search Report.

(2) Claims 1-9

2.1) Claim 1

In the field of information retrieval (IR) systems it is generally known to use circular display regions for the visualization of informational relationships. D2 is considered to be the closest prior art with respect to the subject matter of claim 1. Said document discloses the design of IR tools for the visualization of information "content spaces" (D2: 2. *What has to be Visualized ? - Modelling a Spatial Information Navigation*, paragraphs 1 and 2, p.250) and more particularly discloses the display of text passages ("documents") arranged on a screen in relation to a combination of search criteria ("terms") with the radial distances of the individual text passages

("documents") from the search criteria showing their relevance to the combination of the search criteria ("terms"), cf. Figs.6-8 and 13-16.

The teaching of D2 appears to be restricted to an arrangement in which the combination of search criteria ("term nodes") are placed around the circumference of the display area ("relevance sphere") with the text passages ("documents") being arranged inside the display area, (cf. p.253 I.20-31).

In the display arrangement recited in claim 1, visual representations of a combination of search criteria are displayed in the central or core region of the circular display area and visual representations of the text passages identified as relevant to the search criteria are displayed in the outer sectors of the circular display area, thus being concentrically arranged around the visual representations of the combination of search criteria. The display arrangement recited in said claim does not appear to be disclosed or rendered obvious by the available prior art.

In view of the apparent lack of prejudicial disclosure, the subject matter of claim 1 is considered to meet the requirements of Article 33 PCT in respect of novelty, inventive step and industrial applicability.

3.2) Dependent Claims 2-9

Inasmuch as claim 1 is considered to meet the requirements of Article 33 PCT as indicated in 2.1 above, claims 2-9 dependent thereon may also be considered to meet these requirements.

VIII. Certain Observations on the International Application

(1) Claim 1

The term "usual representation(s)" used in claim 1 (p.9 lines 11-12) appears to be a typographical error. The applicant's intention is understood to be to refer to the previously recited "visual representation(s)".

Program Logic For Displaying Text Passages On A Screen

The present invention concerns a programme logic for displaying text passages which are relevant for the solution of a task on a screen by using at least one data memory for text passages which are electronically stored; upon entering a combination of search criteria the text 5 passages relevant to such combination will be displayed on the screen.

Carrying out of searches for text passages by using at least one data memory is well-known. For that purpose search criteria, in particular search words, are entered into the data 10 memory, whereupon the text passages relevant to such criteria will be displayed on a screen. However, the known processes for the carrying out of searches for text passages have the disadvantage that it cannot be seen on the screen what relevance the text passages displayed have with respect to the search criteria. This applies, in particular, if searches are made with respect to a combination of search criteria.

The article by Fowler et al entitled "Integrating Query, Thesaurus and 15 Document Through a Common Visual Representation"; proceedings of the Annual International ACM/SIGIR Conference on Research & Development in Information Retrieval, Chicago, October 13-16 1991, No. Conf. 14-30 October 1991, pages 142-151 discloses the use of visually displayed graphic structures and a direct manipulation interface for use in document retrieval. A visually displayed network 20 structure is used and a natural language query is converted into a visually displayed network structure, the manipulation of the network structure then allowing manipulation of the query.

The article by Hemmje et al entitled "Lyber World - A Visualisation User Interface Supporting Full Text Retrieval", SIGIR 1994, Dublin, July 3-6 1994, No. 25 Conf. 17, 3 July 1994, pages 249 to 259 discloses a graphical user interface for use in an information retrieval system in which text passages are displayed on a screen in relation to set criteria with radial distances between the two indicating the degree of relevance. The search criteria are placed around the circumference of the display area, with the text passages being arranged inside the display area.

1 The article by Lamping et al entitled "A Focus and Context Technique based
on hyperbolic geometry for visualising large hierarchies"; Human Factors in
computing systems, CHI 1995 conference proceedings, Denver, May 7-11 1995,
5 pages 401-408 discloses a method of displaying a hierarchy in a circular display
region with its root at the centre, and branches extending out from the centre, those
branches then branching further toward the circumference of the circle.

10 The article by G G Robertson et al entitled "Cone Trees: Animated 3-D
Visualisations of Hierarchical Information", Human Factors in Computing Systems
conference proceedings, Reading, USA, 27 April 1991, pages 189-194 discloses a
similar visual display known as a cone tree, but in three dimensions.

15 The present invention is based on the task of creating an improved method through
which in case of a search by means of a combination of search criteria the text passages found
thereby are displayed on the screen in such a way that their relevance in relation to the individual
search criteria is shown. According to this invention, this objective is achieved by concentrically
arranging the text passages on the screen around the combination of the search criteria, with the
radial distances of the individual text passages showing their relevance in respect of the search
criteria.

20 Preferably the individual search criteria are attributed to sectors on the screen, with the
individual text passages being shown on the screen in the sectors of that search criterion for
which they are most relevant. A radial beam or a radial level, respectively, can lead from each of
the search criteria shown in the centre, with the text passages relevant to the individual search
criterion being shown in the sectors of the radial beams or levels, respectively, or those text
passages which are relevant to two of the search criteria being shown in those sectors which are
25 defined by the beams or levels attributed to such search criteria. In this connection, the display
can be two-dimensional or three-dimensional.

CLAIMS

5 1. A method for the display of text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages; wherein upon entering a combination of search criteria visual representations of the combination of search criteria (B, S, T) and of the text passages (bit, *fff*), relevant to such combination are displayed on the screen, the 10 visual representation of the combination of search criteria (B, S, T) being displayed in the centre of the screen and said usual representations of the text passages being arranged on the screen concentrically around the usual representation of the combination of the search criteria (B, S, T), with the radial distances of the visual representation of the individual text passages (bit, *fff*) from the visual representation 15 of the combination of search criteria (B, T, S) showing their relevance to the combination of the search criteria.

2. A method according to claim 1, wherein sectors of the screen are attributed to the individual search criteria (B, S, T), with the visual representations of 20 individual text passages (bit, *fff*) being displayed on the screen in the sectors of that search criterion (B, S, T) for which they are most relevant.

25 3. A method according to claim 1 or 2, wherein the visual representations of the passages (bit, *fff*) are displayed on the screen in two or three dimensions.

30 4. A method according to claim 2 or 3 wherein a radial line is displayed extending from each of the visual representations of the search criterion (B, S, T) displayed in the centre of the screen, with the visual representations of the text passages (bit, *fff*) relevant to an individual one of the search criteria (B, S, T) being shown adjacent the corresponding radial line.

5. A method according to claim 4, wherein the visual representations of those text passages (bit, *fff*) which are relevant to two of the search criteria (B, S, T) are shown in sectors of the screen delimited by the radial lines corresponding to the two search criteria (B, S, T).

5

6. A method according to any one of claims 1 to 5 wherein visual representations of a plurality of criteria relevant to the solution of the task and subcriteria attributed to them are shown on the screen.

10

7. A method according to claim 6, wherein also visual representations of subcriteria of a lower level of hierarchy attributed to each of the subcriteria are arranged radially around the visual representations of the subcriteria.

15

8. A method according to claim 7, characterised by the fact the visual representations of the subcriteria of the lower level of the hierarchy are arranged around the visual representation of the respective superior criterion on the screen in a three-dimensional radial order.

20

9. A method according to any one of the preceding claims wherein the distance between each of the representations of text passages and the centre of the screen increases as the number of search criteria to which that text passage is relevant decreases.

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Article 31

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4 PRTS

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528 C'd PCT/PTO 17 JAN 2001
PCT/EP99/05088

Program Logic For Displaying Text Passages On A Screen

The present invention concerns a programme logic for displaying text passages which are relevant for the solution of a task on a screen by using at least one data memory for text passages which are electronically stored; upon entering a combination of search criteria the text passages relevant to such combination will be displayed on the screen.

Carrying out of searches for text passages by using at least one data memory is well-known. For that purpose search criteria, in particular search words, are entered into the data memory, whereupon the text passages relevant to such criteria will be displayed on a screen. However, the known processes for the carrying out of searches for text passages have the disadvantage that it cannot be seen on the screen what relevance the text passages displayed have with respect to the search criteria. This applies, in particular, if searches are made with respect to a combination of search criteria.

Thus, the present invention is based on the task of creating a programme logic through which in case of a search by means of a combination of search criteria the text passages found thereby are displayed on the screen in such a way that their relevance in relation to the individual search criteria is shown. According to this invention, this objective is achieved by concentrically arranging the text passages on the screen around the combination of the search criteria, with the radial distances of the individual text passages showing their relevance in respect of the search criteria.

Preferably the individual search criteria are attributed to sectors on the screen, with the individual text passages being shown on the screen in the sectors of that search criterion for which they are most relevant. A radial beam or a radial level, respectively, can lead from each of the search criteria shown in the centre, with the text passages relevant to the individual search criterion being shown in the sectors of the radial beams or levels, respectively, or those text passages which are relevant to two of the search criteria being shown in those sectors which are defined by the beams or levels attributed to such search criteria. In this connection, the display can be two-dimensional or three-dimensional.

CLAIMS

1. Programme logic for the display of text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages; upon entering a combination of search criteria the text passages relevant to such combination will be displayed on the screen, marked by the fact that the text passages are arranged on the screen concentrically around the combination of the search criteria, with the radial distances of the individual text passages showing their relevance to the combination of the search criteria.
2. Programme logic pursuant to Claim 1, characterised by the fact that the individual search criteria on the screen are attributed to sectors, with the individual text passages being displayed on the screen in the sectors of that search criterion for which they are most relevant.
3. Programme logic pursuant to one of Claims 1 and 2, characterised by the fact that the text passages are displayed on the screen in two or three dimensions.
4. Programme logic pursuant to one of the Claims 2 or 3, characterised by the fact that a radial beam or a radial level departs from every search criterion shown in the centre, with the text passages relevant to the individual search criteria being shown in the sectors of the radial beams or levels, respectively.
5. Programme logic pursuant to Claim 4, characterised by the fact that those text passages which are relevant to two of the search criteria are shown in those sectors which are defined by the beams or levels attributed to such search criteria.
6. Programme logic for the purpose of retrieving text passages relevant to the solution of a programme by using one screen and at least one data memory for electronically stored text passages characterised by the fact that a number of criteria relevant to the solution of the task and subcriteria attributed to them of several consecutive categories are shown on the screen and that, subsequently, based on a combination of search criteria a text search in at least one data memory is carried out, the result of which can also be displayed on the screen.

7. Programme logic pursuant to Claim 6, characterised by the fact that also the subcriteria of a second category attributed to the subcriteria of a first category are arranged around these subcriteria of the first category in a radial order.

8. Programme logic pursuant to Claim 7, characterised by the fact the subcriteria attributed to one criterion are arranged around the respective superior criterion on the screen in a three-dimensional radial order.

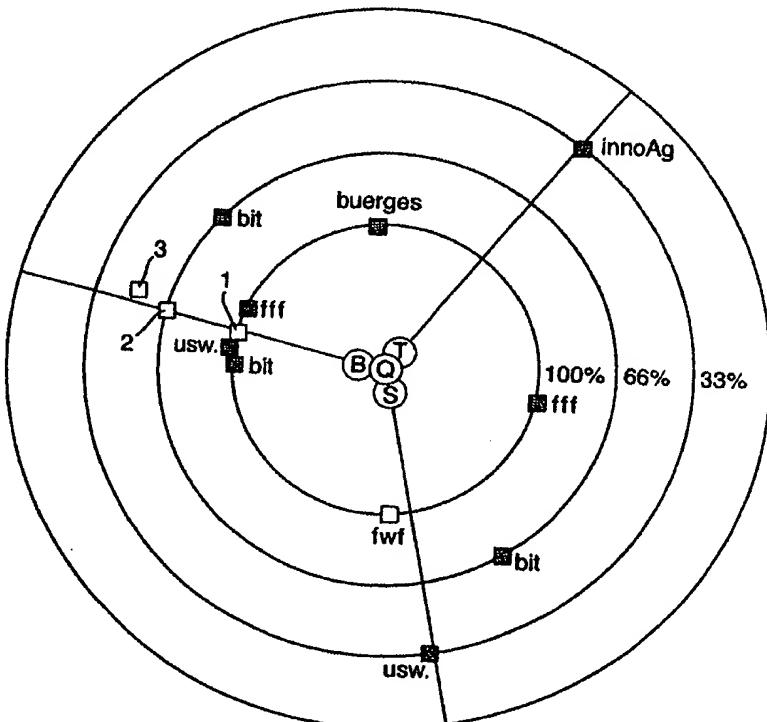
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71) Applicant (for all designated States except US): VIRTUAL REAL-ESTATE [AT/AT]; Breite Gasse 3/2, A-1070 Wien (AT).			
(72) Inventors; and		Published	
(75) Inventors/Applicants (for US only): DÖGL, Christian [AT/AT]; Breite Gasse 3/2, A-1070 Wien (AT). DÖGL, Daniel [AT/AT]; Geusaugasse 33/14, A-1030 Wien (AT). BINDER, Katharina [AT/AT]; Geusaugasse 33/14, A-1030 Wien (AT). CAVALLAR, Claudia [IT/AT]; Gobergasse 54, A-1130 Wien (AT). SCHWAB, Reinhard [AT/AT]; Kahlenbergerstrasse 14, A-1190 Wien (AT).		With international search report.	
(74) Agent: NICHOLLS, Michael, John; J.A. Kemp & Co., 14 South Square, Gray's Inn, London WC1R 5LX (GB).			

(54) Title: PROGRAM LOGIC FOR DISPLAYING TEXT PASSAGES ON A SCREEN

(57) Abstract

Programme logic for the display of text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages, with the relevant text passages being displayed on the screen upon entering a combination of search criteria. The text passages are displayed on the screen in concentric order around the combination of the search criteria, with the radial distances of the individual text passages expressing their relevance to the combination of the search criteria.



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Program Logic For Displaying Text Passages On A Screen

The present invention concerns a programme logic for displaying text passages which are relevant for the solution of a task on a screen by using at least one data memory for text passages which are electronically stored; upon entering a combination of search criteria the text passages relevant to such combination will be displayed on the screen.

Carrying out of searches for text passages by using at least one data memory is well-known. For that purpose search criteria, in particular search words, are entered into the data memory, whereupon the text passages relevant to such criteria will be displayed on a screen. However, the known processes for the carrying out of searches for text passages have the disadvantage that it cannot be seen on the screen what relevance the text passages displayed have with respect to the search criteria. This applies, in particular, if searches are made with respect to a combination of search criteria.

Thus, the present invention is based on the task of creating a programme logic through which in case of a search by means of a combination of search criteria the text passages found thereby are displayed on the screen in such a way that their relevance in relation to the individual search criteria is shown. According to this invention, this objective is achieved by concentrically arranging the text passages on the screen around the combination of the search criteria, with the radial distances of the individual text passages showing their relevance in respect of the search criteria.

Preferably the individual search criteria are attributed to sectors on the screen, with the individual text passages being shown on the screen in the sectors of that search criterion for which they are most relevant. A radial beam or a radial level, respectively, can lead from each of the search criteria shown in the centre, with the text passages relevant to the individual search criterion being shown in the sectors of the radial beams or levels, respectively, or those text passages which are relevant to two of the search criteria being shown in those sectors which are defined by the beams or levels attributed to such search criteria. In this connection, the display can be two-dimensional or three-dimensional.

Furthermore, the present invention is based on the task of creating a programme logic for obtaining text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages.

The recording of terms contained in text passages and displaying them on a screen with their relevance to each other being expressed through their arrangement to each other is well known. In particular, this makes it possible to show terms which are subordinate to particular terms of a number of subsequent categories and, subsequently, relevant text passages may be retrieved from a data memory for respective terms, whereupon they are displayed on the screen. This allows you to obtain the text passages relevant to the solution of an existing task. However, this obtaining of text passages is based on the prerequisite that the criteria which are relevant for the solution of a given task are known. If these criteria are not known, it is not possible to find/retrieve the text passages available for that purpose.

Thus, the present invention is also based on the task of creating a programme logic by which the text passages relevant to the solution of an existing task may be found in a very simple manner. The invention solves this task through showing the relevant criteria and the subcriteria attributed to them of several consecutive categories on the screen, whereupon, based on a combination of search criteria, a text search can be carried out in at least one data memory, the result of which can also be displayed on the screen.

Programme logics of the invention are explained in more detail in the following by means of implementation examples shown in the drawing:

- chart 1 shows text passages retrieved by means of a search, which are displayed on a screen, with their relevance to several search criteria being expressed/shown;
- chart 2 shows terms and subordinate terms displayed on a screen and attributed to a search criterion; and

chart 3 shows text passages pursuant to chart 1 in combination with terms and subordinate terms pursuant to chart 2.

Chart 1 shows the result of a text search carried out by using three search terms. The query is represented by the letter Q. The search terms are described by the letters B, T and S, each of which lie on a radial beam, with these beams together forming an angle of 120°. The letter Q stands for the term QUERY and the letters B, S and T stand for the terms BENÜTZERPROFILE [USER PROFILES], SERVICEANGEBOT [SERVICE OFFER] and BETÄTIGUNGSFELDER [FIELDS OF ACTIVITY]. The centre Q is surrounded by three centric circles 1, 2 and 3 alongside which the text passages found are shown.

Alongside the most inner circle, 1, those text passages are shown which are relevant in relation to all of the three search terms, B, S and T, so that these text passages meet 100% of the search criteria. In addition, the position of the information close to the beams attributed to the terms B, T or S, respectively, expresses the frequency of the respective search terms in these text passages.

In this chart, alongside circle 1 close to the beam attributed to term B, there are a number of pieces of information, which means that the respective text passages are of particular relevance to search term B. On the other hand, there are several additional pieces of information alongside circle 1 between the beams attributed to terms B and T, and terms T and S, respectively, which shows that these text passages are equivalent with respect to search terms B and T and T and S, respectively. Outside of circle 1 there are circles 2 and 3, alongside which those text passages are shown which are only relevant to two of the search terms, meeting 66% of the search criteria, or which are only relevant to one single search term, meeting 33% of the search criteria, with the position of the piece of information in relation to the beams again showing in respect of which search term or terms these text passages are relevant.

Instead of a two-dimensional display, the display may also be three-dimensional, with the text passages being shown alongside concentric spheres.

An alternative in showing the results of the text search is to only show references in the first chart and, by means of additional criteria such as shadings and/or colours to express the frequency in which the respective search terms are contained in these references. Subsequently, these references may be retrieved alone and the text passages themselves can be displayed on the screen.

Thus, this programme logic makes it possible to immediately see the frequency of search terms in text passages and/or references and the relevance of such text passages and/or references with respect to several search terms, which makes the retrieval of text passages and the evaluation thereof considerably easier.

In the following, chart 2 explains a programme logic for retrieval of text passages relevant to the solution of a given task. In the centre of the chart the search term Q-QUERY is shown, which refers to the terms RESEARCH, TECHNOLOGY, INNOVATION. The terms B-USER PROFILES, T-FIELDS OF ACTIVITY and S-SERVICE OFFER are attributed to that search term, which terms are displayed on the screen arranged around the search term in beams and in a smaller size. In relation to the term USER PROFILES, these are the subordinate terms RESEARCHER/SCIENTIST, INVESTOR, PRIVATE PERSON and ENTREPRENEUR.. The subordinate terms of the second category are displayed around the respective subordinate term to which they are attributed, again in a smaller size. This beam-wise display of the individual terms attributed to a search term and of the respective subordinate terms attributed to them of several consecutive criteria can be shown on the screen in two dimensions or three dimensions.

For the user of this search programme this display leads to a very clear arrangement of the terms of equal importance or subordinate importance, which makes it easier to select the terms to be used for carrying out the search. Based on the terms the subordinate terms existing in relation to them of several subsequent categories are displayed on the screen.

The subordinate terms attributed to a term or a subordinate term are being retrieved until that subordinate term is displayed on the screen on which the text search is to be based. Subsequently, at least one additional subordinate term will be retrieved based on a different term.

which subordinate term will also be included in the text search. Thus, at least one term or a combination of terms will be retrieved which may be used for carrying out the text search.

The fact that the programme contains a number of search criteria for a given task which may be of importance for the solution of that task is of importance to this programme. Subordinate search criteria are attributed to such search criteria which, on their part, are supplemented by subordinate search criteria. The user of this programme may retrieve the criteria and/or subcriteria required for the solution of a task. Subsequently, the text passages available for the combination of the relevant criteria may be retrieved and displayed on the screen as has been explained by means of chart 1.

Finally, chart 3 shows the combination of the procedures explained by means of chart 1 and 2. On the one hand, the screen displays the text passages found with respect to the search criteria. On the other hand, additional search terms and search terms subordinate to them are displayed with the aim of supplementing the search by text passages relevant to such additional search terms or evaluating the search by considering these search terms, e.g., in such a way that a part of the text passages will be eliminated.

KEY

CHART 2

gründg. ausl. niederlassg.	establishment of a branch abroad
unternehmensgründung	foundation of a business enterprise
neugründung	foundation of a new enterprise
änderung der rechtsform.	change of legal form
firmenzusammenlegung	merger
ausbildung/schulung	education/training
qualitätssicherung	quality control
eigeninvestitionen	own investments
personal	personnel
zukauf (innov.) produkte	purchase of (innovative) products
zukauf know how/wissen	purchase of know how/knowledge
filialen/in- ausland	branches/domestic, foreign
markterschließung	tapping of markets
produktionsumstellung	change in production

neue geschäftsbereiche	new fields of business
verfahrensverbesserung	improvement of processes
produktverbesserung	improvement of products
entw. neuer technologien	development of new technologies
verfahrensentwicklung	development of processes
produktentwicklung	product development
versuche/testreihen	tests/test series
pilotprojekte	pilot projects
studien/konzepte	studies/concepts
dissertationen/diplomarbeiten	academic/graduation papers
forschungsarbeiten	research
veranstaltungen	events
publikationen	publications
content verwertung	content exploitation
einreichung von projekten	filing of projects
wettbewerbsteilnahme	(participation in) competition
grundlagenforschung	basic research
angewandte forschung	applied research
beteiligungsmöglichkeiten	investment opportunities
investitionen	investments
betätigungsfelder	fields of activity
software/multimedia	=
telekom/info. techn.	telecommunications/information technology
umwelttechnik	environmental technology
biotechnologie	biotechnology
materialwissenschaften	material sciences
energietechnik	energy technology
verkehrstechnik	traffic engineering
bundländer/europa/intl.	federal government/provinces /Europe/international
mit unternehmen	business enterprises
zwischen unternehmen	among business enterprises
mit forschungseinrichtungen	research institutions
zwischen forschungseinrichtungen	among research institutions
beteiligungen	investments
partner (kooperationen)	partners of (cooperation with)
ausbildung	training

serviceangebot	service offer
information/beratung	information/consultancy business
rechtsberatung	legal counsel
förderungsanträge	applications for financial aid
förderungsrichtlinien	guidelines for financial aid
success stories	=
ansprechpartner	contact persons
sonderprogramme	special programmes
evt. einträge aus ergänzungen	possible entries from supplements
zu investoren zu unternehmen	with investors, with business enterprises
zu forschungseinrichtungen	with research institutions
ansprechpartner in institutionen	contact persons at institutions
kontakt	contact
finanzierung	financing
finanzmittel (privatwirtsch.)	financial means (private economy)
venture capital	=
darlehen	loans
kredit	credit facilities
joint venture	=
investoren	investors
beteiligungen	investments
sponsoring	=
förderungen	subsidies
mezzanindarlehen	"mezzanine" loan
seedfinancing	=
fördermix	mix of financial aid
nicht rückzahlbare zuschüsse	non-repayable subsidies
zinsenzuschüsse zu bankkrediten	interest subsidies for bank loans
zinsengünstige kredite	loans with favourable interest terms
haftungsübernahme	assumption of liability
risikoreduktion	reduction of risk
unternehmer/n	entrepreneur(s)
standort	location

geschlecht	sex
industrie/gewerbe/handel	industry/trade
stiftungen	foundations/trusts
KMU/großbetrieb/einzelunternehmen/ARGE	small and medium-size enterprises/large enterprises/sole proprietorships/work groups
tochterunternehmen	subsidiaries
konzerne (multinationale)	groups (multinational)
benutzerprofile	user profiles
privatperson	private person
wohnort (nationalität)	residence (nationality)
geschlecht	sex
weiß nicht/anderes	don't know/others
investor	=
privatperson	private person
universität	university
forscher/wissenschaftler	researcher/scientist
unternehmen	(at) business enterprises
forschungszentrum	research centre
erfindungen/patente	inventions/patents
beteiligungsmöglichkeiten investitionen	investment opportunities/investments

CLAIMS

1. Programme logic for the display of text passages relevant to the solution of a task by using a screen and at least one data memory for electronically stored text passages; upon entering a combination of search criteria the text passages relevant to such combination will be displayed on the screen, marked by the fact that the text passages are arranged on the screen concentrically around the combination of the search criteria, with the radial distances of the individual text passages showing their relevance to the combination of the search criteria.
2. Programme logic pursuant to Claim 1, characterised by the fact that the individual search criteria on the screen are attributed to sectors, with the individual text passages being displayed on the screen in the sectors of that search criterion for which they are most relevant.
3. Programme logic pursuant to one of Claims 1 and 2, characterised by the fact that the text passages are displayed on the screen in two or three dimensions.
4. Programme logic pursuant to one of the Claims 2 or 3, characterised by the fact that a radial beam or a radial level departs from every search criterion shown in the centre, with the text passages relevant to the individual search criteria being shown in the sectors of the radial beams or levels, respectively.
5. Programme logic pursuant to Claim 4, characterised by the fact that those text passages which are relevant to two of the search criteria are shown in those sectors which are defined by the beams or levels attributed to such search criteria.
6. Programme logic for the purpose of retrieving text passages relevant to the solution of a programme by using one screen and at least one data memory for electronically stored text passages characterised by the fact that a number of criteria relevant to the solution of the task and subcriteria attributed to them of several consecutive categories are shown on the screen and that, subsequently, based on a combination of search criteria a text search in at least one data memory is carried out, the result of which can also be displayed on the screen.

7. Programme logic pursuant to Claim 6, characterised by the fact that also the subcriteria of a second category attributed to the subcriteria of a first category are arranged around these subcriteria of the first category in a radial order.

8. Programme logic pursuant to Claim 7, characterised by the fact the subcriteria attributed to one criterion are arranged around the respective superior criterion on the screen in a three-dimensional radial order.

Fig.1.

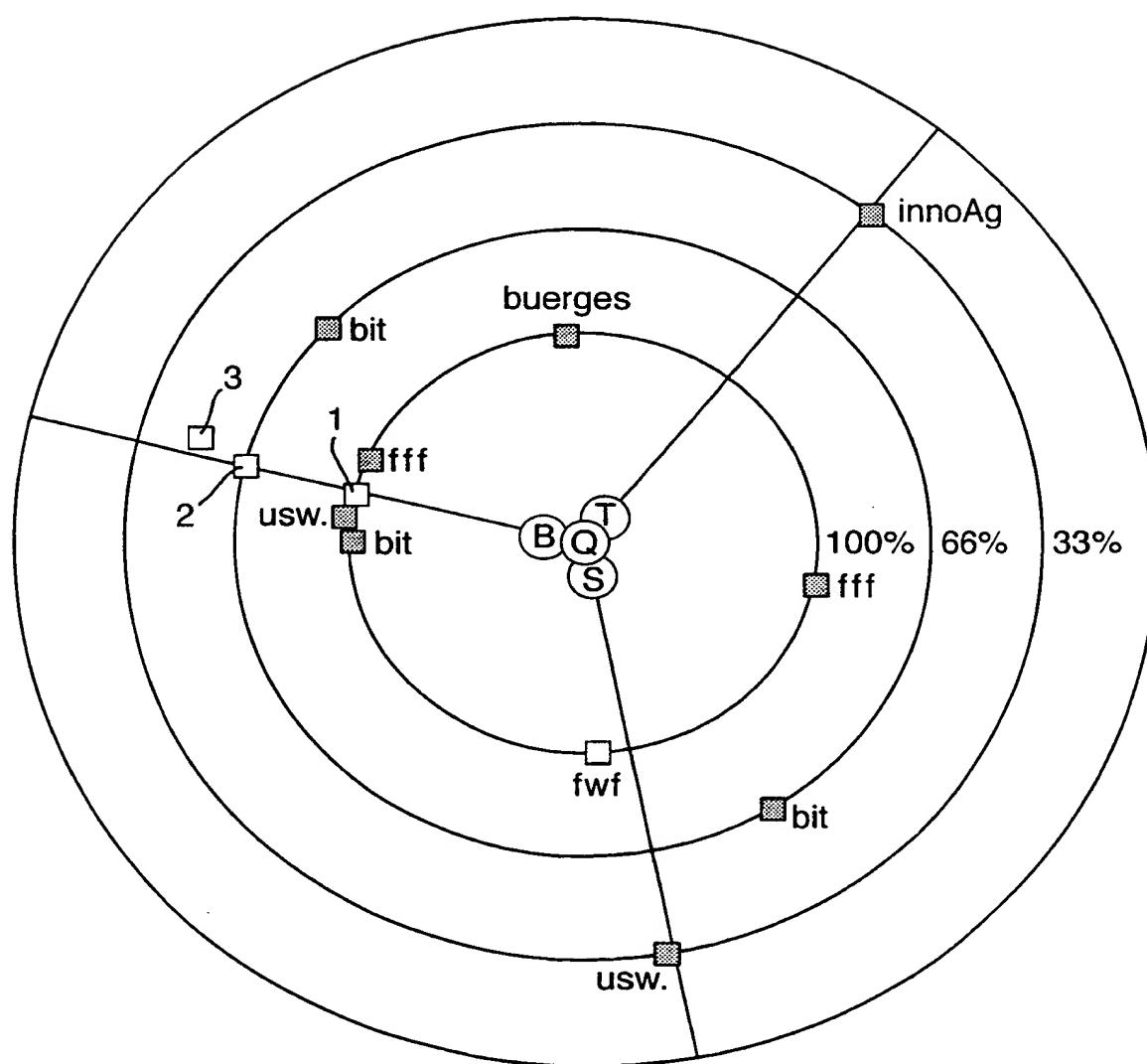


Fig.2.

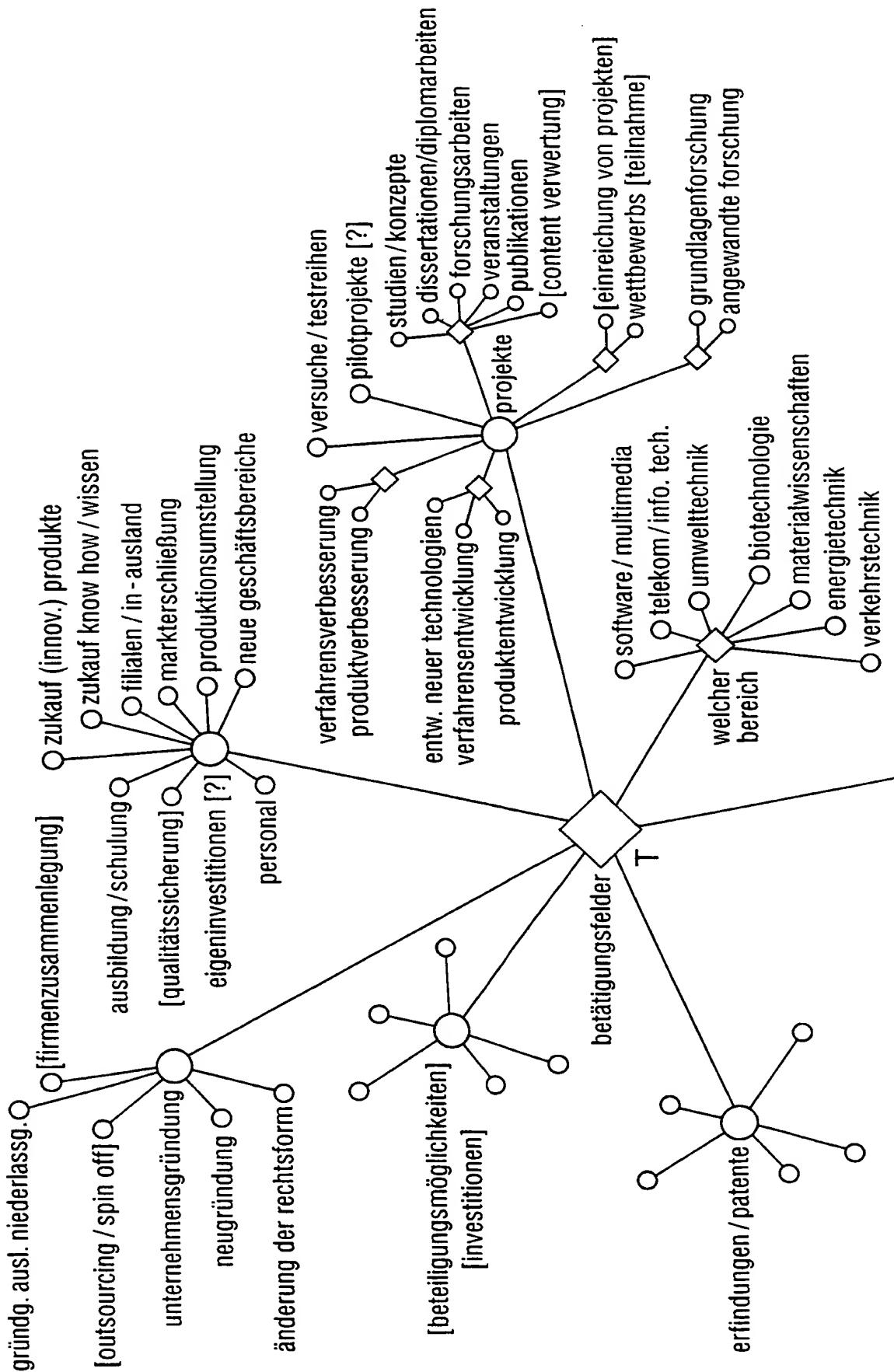


Fig.2 cont.

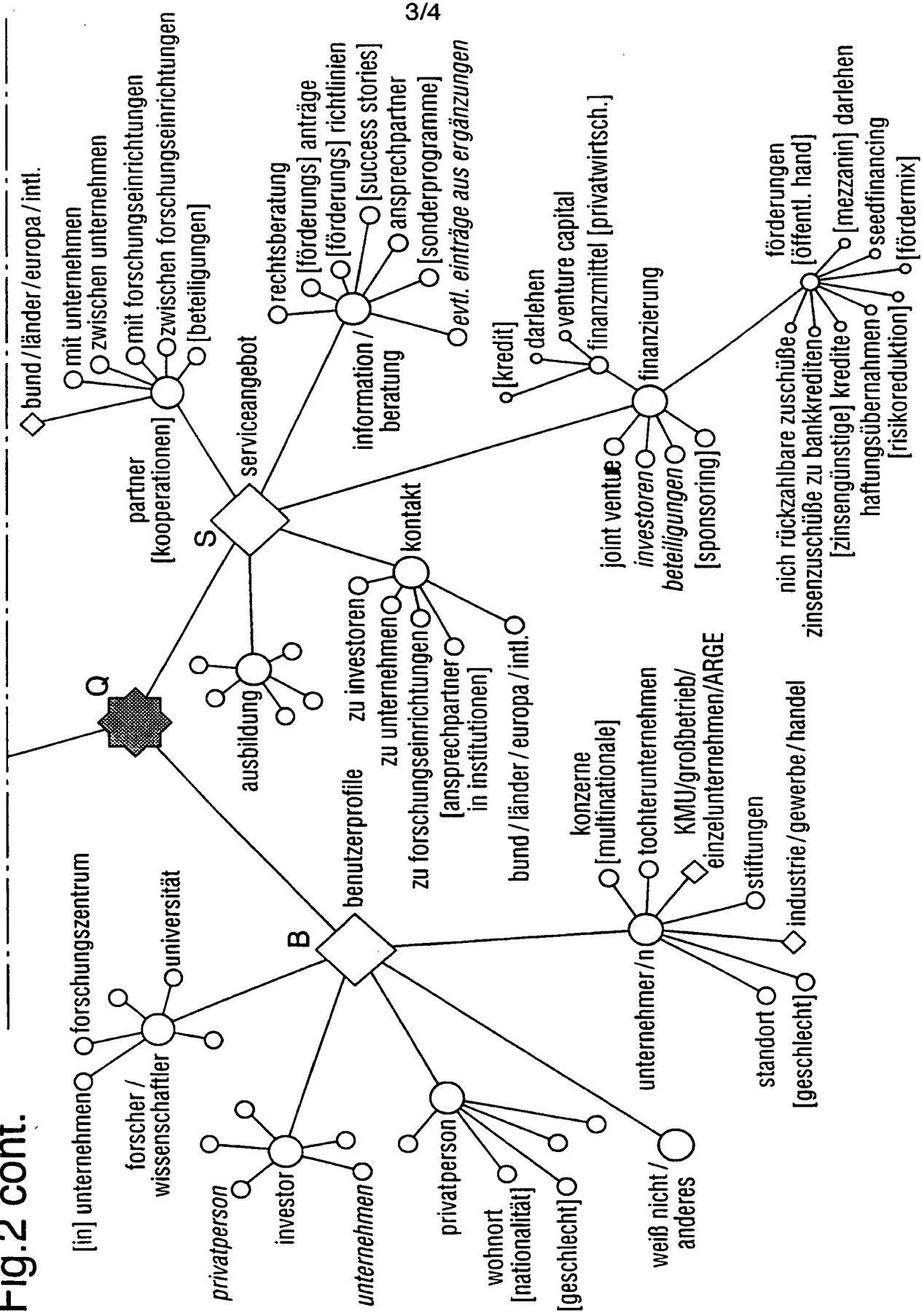
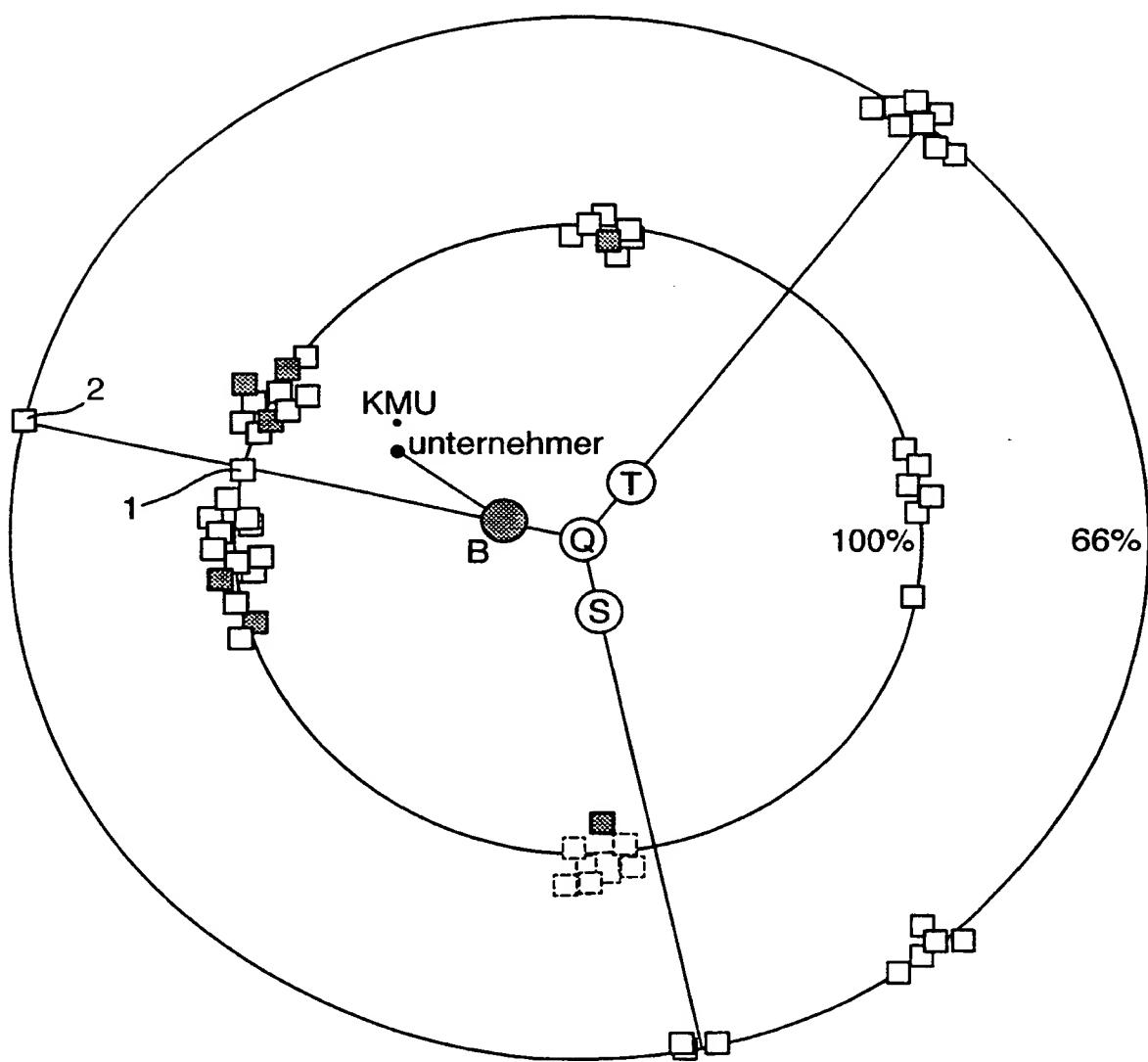


Fig.3.



INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 99/05088

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HEMMJE M ET AL: "LYBER WORLD - A VISUALIZATION USER INTERFACE SUPPORTING FULLTEXT RETRIEVAL" SIGIR '94, DUBLIN, JULY 3 - 6, 1994, no. CONF. 17, 3 July 1994 (1994-07-03), pages 249-259, XP000475325</p> <p>CROFT W B; VAN RIJSBERGEN C J (EDITORS) page 253, line 6 -page 255, paragraph 4 page 251, line 57 -page 252, line 9</p> <p>---</p> <p style="text-align: center;">-/-</p>	1-5
A		6-8

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Date of the actual completion of the international search

Date of mailing of the international search report

22 October 1999

02/11/1999

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Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
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Fournier, C

INTERNATIONAL SEARCH REPORT

Internat'l Application No

PCT/EP 99/05088

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GINSBERG A: "A UNIFIED APPROACH TO AUTOMATIC INDEXING AND INFORMATION RETRIEVAL" IEEE EXPERT, vol. 8, no. 5, 1 October 1993 (1993-10-01), pages 46-56, XP000413472 ISSN: 0885-9000	6
A	page 47, right-hand column, line 3 -page 48, left-hand column, line 14 ----	7,8
A	LAMPING J ET AL: "A FOCUS+CONTEXT TECHNIQUE BASED ON HYPERBOLIC GEOMETRY FOR VISUALIZING LARGE HIERARCHIES" HUMAN FACTORS IN COMPUTING SYSTEMS, CHI '95 CONFERENCE PROCEEDINGS. DENVER, MAY 7 - 11, 1995, 7 May 1995 (1995-05-07), pages 401-408, XP000538470 KATZ I R ET AL (ED) ISBN: 0-201-84705-1 abstract; figures ----	6-8
A	FOWLER R H ET AL: "INTEGRATING QUERY, THESAURUS, AND DOCUMENTS THROUGH A COMMON VISUAL REPRESENTATION" PROCEEDINGS OF THE ANNUAL INTERNATIONAL ACM/SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, CHICAGO, OCT. 13 - 16, 1991, no. CONF. 14, 13 October 1991 (1991-10-13), pages 142-151, XP000239166 BOOKSTEIN A;CHIARAMELLA Y; SALTON G; RAGHAVAN V the whole document -----	1-8

PATENT COOPERATION TREATY

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NOTIFICATION OF THE RECORDING
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To:

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J.A. Kemp & Co.
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Gray's Inn
London WC1R 5LX
ROYAUME-UNI

Date of mailing (day/month/year) 27 September 2000 (27.09.00)
Applicant's or agent's file reference N.77422 MN
International application No. PCT/EP99/05088

IMPORTANT NOTIFICATION
International filing date (day/month/year)
16 July 1999 (16.07.99)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative				
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	Facsimile No.			
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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input type="checkbox"/> the person <input checked="" type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence				
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J.A. KEMP & Co

RECD - 6 OCT 2001

Action by

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International application No. PCT/EP99/05088

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Date of mailing (day/month/year) 22 March 2000 (22.03.00)	ROYAUME-UNI
Applicant's or agent's file reference: N.77422 MN	IMPORTANT NOTIFICATION
International application No. PCT/EP99/05088	International filing date (day/month/year) 16 July 1999 (16.07.99)

1. The following indications appeared on record concerning:

the applicant the inventor the agent the common representative

Name and Address	State of Nationality	State of Residence
DÖGL, Daniel Geusaugasse 33/14 A-1030 Wien Austria	AT	AT
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person the name the address the nationality the residence

Name and Address DÖGL, Daniel Kirchengasse 34/2/2 A-1070 Wien Austria	State of Nationality AT	State of Residence AT
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

the receiving Office

the International Searching Authority

X the International Preliminary Examining Authority

the designated Offices concerned

the elected Offices concerned

other:

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p>	<p>Authorized officer Beate Giffo-Schmitt</p>
<p>Facsimile No.: (41-22) 740.14.35</p>	<p>Telephone No.: (41-22) 338.83.38</p>

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PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION
(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 22 March 2000 (22.03.00)	
International application No. PCT/EP99/05088	Applicant's or agent's file reference N.77422 MN
International filing date (day/month/year) 16 July 1999 (16.07.99)	Priority date (day/month/year) 17 July 1998 (17.07.98)
Applicant DÖGL, Christian et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

08 February 2000 (08.02.00)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Beate Giffo-Schmitt Telephone No.: (41-22) 338.83.38
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INTERNATIONAL COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

Date of mailing (day/month/year) 22 March 2000 (22.03.00)		ROYAUME-UNI							
Applicant's or agent's file reference N.77422 MN		IMPORTANT NOTIFICATION							
International application No. PCT/EP99/05088		International filing date (day/month/year) 16 July 1999 (16.07.99)							
<p>1. The following indications appeared on record concerning:</p> <p><input checked="" type="checkbox"/> the applicant <input checked="" type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative</p>									
Name and Address CAVALLAR, Claudia Gobergasse 54 A-1130 Wien Austria		State of Nationality							
		IT							
		Telephone No.							
		Facsimile No.							
Name and Address CAVALLAR, Claudia Rienösslgasse 22/14 A-1040 Wien Austria		State of Residence							
		AT							
		Teleprinter No.							
<p>2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:</p> <p><input type="checkbox"/> the person <input type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence</p>									
Name and Address CAVALLAR, Claudia Rienösslgasse 22/14 A-1040 Wien Austria		State of Nationality							
		IT							
		Telephone No.							
		Facsimile No.							
Name and Address CAVALLAR, Claudia Rienösslgasse 22/14 A-1040 Wien Austria		State of Residence							
		AT							
		Teleprinter No.							
<p>3. Further observations, if necessary:</p>									
<p>4. A copy of this notification has been sent to:</p> <table> <tr> <td><input checked="" type="checkbox"/> the receiving Office</td> <td><input type="checkbox"/> the designated Offices concerned</td> </tr> <tr> <td><input type="checkbox"/> the International Searching Authority</td> <td><input checked="" type="checkbox"/> the elected Offices concerned</td> </tr> <tr> <td><input checked="" type="checkbox"/> the International Preliminary Examining Authority</td> <td><input type="checkbox"/> other:</td> </tr> </table>				<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned								
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned								
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:								
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland		Authorized officer Beate Giffo-Schmitt Telephone No.: (41-22) 338.83.38							

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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)Date of mailing (day/month/year)
22 March 2000 (22.03.00)

From the INTERNATIONAL BUREAU

To:

NICHOLLS, Michael, John
J.A. Kemp & Co.
14 South Square
Gray's Inn
London WC1R 5LX
ROYAUME-UNIApplicant's or agent's file reference
N.77422 MN

IMPORTANT NOTIFICATION

International application No.
PCT/EP99/05088International filing date (day/month/year)
16 July 1999 (16.07.99)

1. The following indications appeared on record concerning:

 the applicant the inventor the agent the common representative
Name and Address
CAVALLAR, Claudia
Gobergasse 54
A-1130 Wien
Austria

State of Nationality IT	State of Residence AT
Telephone No.	
Facsimile No.	
Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

 the person the name the address the nationality the residence
Name and Address
CAVALLAR, Claudia
Rienösslgasse 22/14
A-1040 Wien
Austria

State of Nationality IT	State of Residence AT
Telephone No.	
Facsimile No.	
Teleprinter No.	

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Beate Giffo-Schmitt Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

Date of mailing (day/month/year)

22 March 2000 (22.03.00)

Applicant's or agent's file reference

N.77422 MN

International application No.

PCT/EP99/05088

From the INTERNATIONAL BUREAU

To:

NICHOLLS, Michael, John
J.A. Kemp & Co.
14 South Square
Gray's Inn
London WC1R 5LX
ROYAUME-UNI

IMPORTANT NOTIFICATION

International filing date (day/month/year)

16 July 1999 (16.07.99)

1. The following indications appeared on record concerning:

the applicant the inventor the agent the common representative

Name and Address

DÖGL, Daniel
Geusaugasse 33/14
A-1030 Wien
Austria

State of Nationality

AT

State of Residence

AT

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person the name the address the nationality the residence

Name and Address

DÖGL, Daniel
Kirchengasse 34/2/2
A-1070 Wien
Austria

State of Nationality

AT

State of Residence

AT

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

the receiving Office the designated Offices concerned
 the International Searching Authority the elected Offices concerned
 the International Preliminary Examining Authority other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Beate Giffo-Schmitt

Telephone No.: (41-22) 338.83.38